

REMARKS

Claims 1-16 are pending. Claims 9 and 10 have been amended.

Support for the amendments to claims 9 and 10 are found, *inter alia*, on page 15, lines 4-6 and page 17, lines 35-39, respectively.

The allowance or allowability of claims 1, 3-8 and 11-15 is again noted with appreciation.

Claims 2, 9, 10 and 16 stand rejected as being anticipated by Koch (US 3,828,736).

Koch discloses a converter for the catalytic conversion of fuel comprising a vaporization space and a conversion space. Thereby, the fuel is fed by a pump 4 via a pipeline 5 to an evaporator 6 ahead of the entrance of the catalyst chamber 1. A mixing nuzzle 7 for mixing the evaporated fuel with the oxygen containing gas is at the evaporator 6. Fresh air can be fed to the mixing nuzzle 7 via a pipeline 8. A part of the exhaust gases of the combustion engine through pipeline 9 is fed to the evaporated fuel at mixing nuzzle 7. The fuel gas mixture flows through a pipeline 10 to the catalyst chamber 1, in which the fuel is converted into a gas containing methane and carbon monoxide (see col. 2, lines 32-43 of Koch). Accordingly, the examiner's statement that "Koch discloses a converter for a catalytic conversion of fuel (See Fig. 1), comprising a vaporization space (6) and a conversion space (1), the vaporization space being located within the conversion space" is incorrect.

In a telephone interview the examiner indicated that there is inherently some

vaporization of fuel in catalyst chamber 1 in the passage openings 3.

The figure of Koch, however, shows a converter in which the vaporization space - pipe 10 - is situated not in the converter but before the converter. This pipe 10 is not a part of the converter. In pipe 10 the fuel, the exhaust gas and the intake air are mixed together and feed to the converter. Thereby, a gas mixture is generated (col. 2, lines 39-42 of Koch):

“The fuel gas mixture flows, through a pipeline 10, to the catalyst chamber 1, in which the fuel is converted into a gas containing methane and carbon monoxide.”

Thus, the opinion of the examiner, which he explained in the aforementioned telephone interview:

“that there is inherently some vaporization of fuel in the catalyst chamber 1 in the passage openings 3”

is also incorrect. This is also rendered obvious by the description of Koch itself. On page 3, lines 7-17, it is stated that the passage openings serve for the passage of the gas or the gas mixture. Further, the passage openings also transport the gases to the catalytical centers in the free pores of the sintered bodies. Therefore, the function of the passage openings is clearly defined for the transport of gases. In the whole document of Koch, no support can be found for the interpretation of the examiner.

According to the examiner during the interview, US 3,871,838 and US 4,174,954, which are not of record in this file, taught vaporization of fuel within a catalytic

converter.

US 3,871,838 covers an improved apparatus for mixing an oxygen containing gas with a vaporized, gasified or atomized hydrocarbon within the mixing chamber of a gas reforming device in which one or more tubes having discharge openings distributed over the flow cross section of the mixing zone supply the oxygen containing gas and further have attached thereto guide baffles which gradually enlarge the unobstructed flow cross section constricted by the tube or tubes.

The converter according to US 3,871,838 is shown in Figure 1. This converter also shows passage openings in the catalyst chamber, but which do not serve to vaporize the flow. The flow, which has to be converted, is mixed in a gas chamber (11) and then the gas enters the reaction zone (see col. 3, lines 49-51). Besides, the function of said passage opening is to get the gas mixture in contact with the catalytically active centers of the catalyst:

“From the passage canals the gas mixture will get into the catalytically active centers in the free pores of the sinter block to cause the required reaction to take place.” (Col. 4, lines 25-28)

US 4,174,954 covers a gas generation method in which liquid fuel is catalytically reacted with air at elevated temperatures to form a fuel gas, wherein several plates each having a multiplicity of passage openings are arranged in tandem in spaced fashion within the reaction chamber of the gas generator and are embedded in a bed of packing material with the thermal conductivity of the plates higher than that of the

packing material in order to obtain more uniform heating of the reaction chamber and better mixing and distribution of the reacting media permitting the gas generator to be loaded more heavily.

The converters for the gas generation method are shown in Figs. 1 and 3, wherein no passage openings are present in which vaporization of the gas occurs.

In addition, Koch mentions in col. 2, lines 28-32, that the catalyst carrier consists of one or several highly porous sintered stones, which have multiplicity of passage openings. In contrast to this, claims 9 and 16 recite that the catalyst is used in the form of a honeycomb. This is neither described nor rendered obvious by Koch. Thus, these references do not appear to support the examiner's conclusion.

The amendment to claim 10 clearly indicates that the fuel that is injected into the converter is liquid.

Claims 2 and 10 are further removed from Koch because they are process claims directed to the "catalytic conversion of fuel for removing oxides of nitrogen from exhaust gases of internal combustion engines." Contrariwise, the process of Koch is directed to converting fuel to a gas mixture containing methane and carbon monoxide" (col. 1, lines 23-26; claim 1).

The reference does not even mention nitrogen oxides, but rather indicates that his process does not even affect the nitrogen present in the process (col. 6, lines 1-15). Thus, claims 2 and 10 are clearly patentable over Koch.

The examiner is requested to make of record US Patents 3,871,838 and

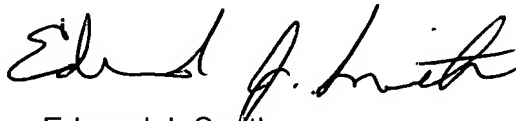
4,174,954, as well as his position regarding them, if they are to be used in rejecting the claims.

In view of the above amendments and remarks, it is believed that all claims are now allowable. Such action by the examiner is solicited.

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees to Deposit Account No. 11-0345. Please credit any excess fees to such deposit account.

Respectfully submitted,

KEIL & WEINKAUF

A handwritten signature in black ink, appearing to read "Edward J. Smith". The signature is fluid and cursive, with the first name "Edward" being more prominent.

Edward J. Smith
Reg. No. 24,070

1350 Connecticut Ave., N.W.
Washington, D.C. 20036
(202)659-0100

EJS/kas